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## RAW SEQUENCE LISTING

DATE: 12/04/2002

PATENT APPLICATION: US/10/070,666A

TIME: 12:39:30

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\12032002\J070666A.raw

3 <110> APPLICANT: Aventis Research & Technologies GmbH & Co KG  
 5 <120> TITLE OF INVENTION: Nucleic Acid Which is Obtained from Tetrahymena and Which  
 Codes for a

6 delta 6-desaturase, the Production Thereof and Use

8 <130> FILE REFERENCE: Banner & Witcoff Attorney Docket Number 005430.00002; National  
 Phase

10 <140> CURRENT APPLICATION NUMBER: US/10/070,666A

C--> 11 <141> CURRENT FILING DATE: 2002-09-09

13 <160> NUMBER OF SEQ ID NOS: 19

15 <170> SOFTWARE: PatentIn version 3.1

17 <210> SEQ ID NO: 1

18 <211> LENGTH: 1219

19 <212> TYPE: DNA

20 <213> ORGANISM: Tetrahymena thermophila

22 <400> SEQUENCE: 1

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25	ttgttcttga	aaataaacc	gaacttctca	acgaatacaa	atttatttac	aaggatactg	120
27	aatatgactg	caactgaatat	gctaaatcaa	ataagcatcc	tggcggtctt	aatttcctca	180
29	atttgtttat	tgatgagaag	taagatttga	ctgaatat	cagaacactc	catttctaagt	240
31	aggctttgaa	aattttaaaa	tccttcccta	agactggcgc	aaaataagag	gagactgaat	300
33	cttcaaagag	attctcaata	ttaaagaaaa	agcttaagca	tttattcgaa	ccaaactggc	360
35	ctatcgaaat	tggtttattc	ttaactacct	ttactttatt	tgtcactgga	tgtttgactc	420
37	aaaagtggta	tttctctatt	ccccttcttg	tcttaatgca	aatcatcagt	ggttggattg	480
39	gtcactctat	gaaccacaat	cgtaacccta	tattaagaaa	attcgcttta	gtctacgctc	540
41	ctctttgtgg	tggtttctct	aataaatggg	ggggtaggaa	gcacaatcaa	catcatatgt	600
43	tcacaaacaa	cattctaaag	gacgaagata	tctaacacga	ttacaaattg	tggttaattcc	660
45	ccttcttatt	tttaaagtgg	aaattagact	ccatcttagc	ttcttattat	gaatttgaag	720
47	gaatcttcct	tgccttgca	tgggtattat	tattcaacta	aaacttctat	atcgtaattc	780
49	tttctgaatt	gattgctggt	ttcttcagt	cttctattct	tgttggaat	catgaaaatg	840
51	aaatgaaatt	cgaaagaaga	atcactttac	catttttcga	acatcaaata	gctgcaagca	900
53	gaaactacgc	tttccacgac	atattctctc	tacttattat	gggtggtatg	taatattaga	960
55	ctgaacatca	ctttttccca	ttaattcctt	tctacagatt	acccaaagct	cgtgtcataa	1020
57	ttgctgaaga	attaaagaag	tggaaacctta	agattcatga	aggacctatt	tttgaaaaat	1080
59	ctcacctttg	aaaataaata	aattttattt	aaatgcata	tttattagta	ataactaaca	1140
61	ttgtaggaaa	tgtgttatgg	tttgtttact	tattactttt	taatctgaga	aaacagtctt	1200
63	aacaaaaaaa	aaaaaaaaa					1219

66 <210> SEQ ID NO: 2

67 <211> LENGTH: 352

68 <212> TYPE: PRT

69 <213> ORGANISM: Tetrahymena thermophila

71 <400> SEQUENCE: 2

73 Met Gly Val Asp Lys Thr Gln Glu Glu Ile Val Leu Glu Asn Lys Pro

74 1 5 10 15

77 Glu Leu Leu Asn Glu Tyr Lys Phe Ile Tyr Lys Asp Thr Glu Tyr Asp

ENTERED

78

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81 Cys Thr Glu Tyr Ala Lys Ser Asn Lys His Pro Gly Gly Leu Asn Phe
82      35      40      45
85 Leu Asn Leu Phe Ile Asp Glu Lys Gln Asp Leu Thr Glu Tyr Phe Arg
86      50      55      60
89 Thr Leu His Ser Lys Gln Ala Leu Lys Ile Leu Lys Ser Phe Pro Lys
90 65      70      75      80
93 Thr Gly Ala Lys Gln Glu Glu Thr Glu Ser Ser Lys Arg Phe Ser Ile
94      85      90      95
97 Leu Lys Lys Lys Leu Lys His Leu Phe Glu Pro Asn Trp Pro Ile Glu
98      100      105      110
101 Ile Gly Leu Phe Leu Thr Thr Phe Thr Leu Phe Val Thr Gly Cys Leu
102      115      120      125
105 Thr Gln Lys Trp Tyr Phe Ser Ile Pro Leu Leu Val Leu Met Gln Ile
106      130      135      140
109 Ile Ser Gly Trp Ile Gly His Ser Met Asn His Asn Arg Asn Pro Ile
110 145      150      155      160
113 Leu Arg Lys Phe Ala Leu Val Tyr Ala Pro Leu Cys Gly Gly Phe Ser
114      165      170      175
117 Asn Lys Trp Trp Gly Arg Lys His Asn Gln His His Met Phe Thr Asn
118      180      185      190
121 Asn Ile Leu Lys Asp Glu Asp Ile Gln His Asp Tyr Lys Leu Trp Gln
122      195      200      205
125 Phe Pro Phe Leu Phe Leu Lys Trp Lys Leu Asp Ser Ile Leu Ala Ser
126      210      215      220
129 Tyr Tyr Glu Phe Glu Gly Ile Phe Leu Ala Leu His Trp Val Leu Leu
130 225      230      235      240
133 Phe Asn Gln Asn Phe Tyr Ile Val Ile Leu Ser Glu Leu Ile Ala Gly
134      245      250      255
137 Phe Phe Ser Ala Ser Ile Leu Val Gly Asn His Glu Asn Glu Met Lys
138      260      265      270
141 Phe Glu Arg Arg Ile Thr Leu Pro Phe Phe Glu His Gln Ile Ala Ala
142      275      280      285
145 Ser Arg Asn Tyr Ala Phe His Asp Ile Phe Ser Leu Leu Ile Met Gly
146      290      295      300
149 Gly Met Gln Tyr Gln Thr Glu His His Phe Phe Pro Gln Ile Pro Phe
150 305      310      315      320
153 Tyr Arg Leu Pro Lys Ala Arg Val Ile Ile Ala Glu Glu Leu Lys Lys
154      325      330      335
157 Trp Asn Leu Lys Ile His Glu Gly Pro Ile Phe Glu Lys Ser His Leu
158      340      345      350
161 <210> SEQ ID NO: 3
162 <211> LENGTH: 2492
163 <212> TYPE: DNA
164 <213> ORGANISM: Tetrahymena thermophila
166 <400> SEQUENCE: 3
167 taaaacgatt ataaatatca cacaaattaa accgaaaaag agttaagtg ctaatattaa      60
169 taatataatt tatctaaatt gaaagatggt tcaattaatt tgaaattatt ttgaagcaaa      120
171 ataattcgat tcgtgtaaga tggaaattga aagaattaag gtttagaaaa gttcttttg      180
173 taaaataata gagttaaagt caataaattt tatattacgt aaatcttaaa gtgtgcaaat      240

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175 gttatcatta acaattctaa atgatgcaaa atatttaaat tattaaaaat aatgatagtt 300
177 aataaaatca atatttcata ataataataa ggtatctatc tatctatcaa tatttcaata 360
179 aatattaatt aaaaggttat aaaataagta agcaaaactaa atttaaaaaa caagcattat 420
181 gggagttgat aagacttaag aagaaattgt tcttgaaaat aaacccgaac ttctcaacga 480
183 atacaaattt atttacaagg atactgaata tgactgcact gaatatgcta aatcaaataa 540
185 gcactcctggc ggtcttaatt tcctcaattt gtttattgat gagaagtaag atttgactga 600
187 atatttcaga acactccatt ctaagtaggc ttgaaaatt ttaaaatcct tccctaagac 660
189 tggcgcaaaa taagaggaga ctgaatcttc aaagagattc tcaatattaa agaaaaagct 720
191 taagcatgta aatacattca aatgatatct ttattgagca ttttagcat aatttgataa 780
193 ttttcataag catattttta attataaaaa tgaacatatt tttaaattaa tttagttatt 840
195 cgaaccaaac tggcctatcg aaattggttt attcttaact acctttactt tatttgtcac 900
197 tggatgtttg actcaaaagt ggtatttctc tttcccctt cttgtcttaa tgcaaatcat 960
199 cagtggtttg attggtcact ctatgaacca caatcgtaac cctatattaa gaaaattcgc 1020
201 tttagtctac gctcctcttt gtggtggttt ctctaataaa tgggtgggta ggaagcacia 1080
203 tcaagtaacc ataataattta atataaatat ataaagattt tttggttttg cgaggaaaaa 1140
205 agtcatattt tgatgcttta atagtacaaa caatatttga ttgttatgat taaattatta 1200
207 aagatcttaa tttagccttt tttaaaaatt tcaaataaat ttgaagataa tattattaaa 1260
209 gtataataaa tgattaagcc aaaatctgta ccaaaaatct gtaaatacaa aatcaacttc 1320
211 acacaaagat tacacatagc attttatttt ttataataaa ataaatgaaa atagtttttt 1380
213 attttaagaa atgaaataac ttttttccc tatgattttc aattaataaa aagcattgct 1440
215 atacaaataa ttgaaaaaag ctaaatcttt tttctattaa aattaattac aaattgtaaa 1500
217 agattaattt taccatttaa ttttaagtacc gcaataagca aatctctatt tttttaagc 1560
219 aatgacgtca cggataaata ttatcatact attcctcaat aataaatcat ctttaaaata 1620
221 atttaaaact aattaatata attctaataa aagcatcata tgttcacaaa caacattcta 1680
223 aaggacgaag atatctaaca cgattacaaa ttgtggtaat tccccttctt atttttaag 1740
225 tggaaattag actccatctt agcttcttat tatgaatttg aaggaatctt cttgccttg 1800
227 cactgggtat tattattcaa ctaaaacttc tatatcgtaa ttctttctga attgattgct 1860
229 ggtttcttca gtgcttctat tcttggtgga aatcatgaaa atgaaatgaa attcgaaaga 1920
231 agaatcactt taccattttt cgaacatcaa atagctgcaa gcagaaacta cgctttccac 1980
233 gacatattct ctctacttat tatgggtggt atgtaatat agactgaaca tcacttttc 2040
235 ccataaattc ctttctacag attacccaaa gctcgtgtca taattgctga agaattaaag 2100
237 aagtgaacc ttaagattca tgaaggacct atttttgaaa aatctcacct ttgaaaataa 2160
239 ataaatttat tttaaatgca tattttatta gtaatactaa caattgtagg aaatgtgtta 2220
241 tggtttggtt acttattact ttttaatctg agaaaacagt cttaacattt attcgatttt 2280
243 atttaacatt acttttttaa aaacaatttt gcttactata aatttacata agtatagtaa 2340
245 gaaactaagt tgatggtgtt attttttaat ttttctaatt aatttgtaaa taaacgatga 2400
247 ttttaattat taatccagca aataggcata attatattac aaataccagc ccgggccgctc 2460
249 gaccacgcgt gccctatagt gagtcgtatt ac 2492
252 <210> SEQ ID NO: 4
253 <211> LENGTH: 10
254 <212> TYPE: PRT
255 <213> ORGANISM: Tetrahymena thermophila
257 <400> SEQUENCE: 4
259 Trp Trp Lys Trp Asn His Asn Ala His His
260 1 5 10
263 <210> SEQ ID NO: 5
264 <211> LENGTH: 13
265 <212> TYPE: PRT
266 <213> ORGANISM: Tetrahymena thermophila

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268 <400> SEQUENCE: 5
270 Gly Gly Leu Gln Phe Gln Ile Glu His His Leu Phe Pro
271 1 5 10
274 <210> SEQ ID NO: 6
275 <211> LENGTH: 20
276 <212> TYPE: DNA
277 <213> ORGANISM: Artificial Sequence
279 <220> FEATURE:
280 <223> OTHER INFORMATION: Primer
282 <220> FEATURE:
283 <221> NAME/KEY: misc_feature
284 <222> LOCATION: (15)..(15)
285 <223> OTHER INFORMATION: n = a or g or c or t/u
288 <400> SEQUENCE: 6
W--> 289 tgggtggaart ggamncaayaa 20
292 <210> SEQ ID NO: 7
293 <211> LENGTH: 20
294 <212> TYPE: DNA
295 <213> ORGANISM: Artificial Sequence
297 <220> FEATURE:
298 <223> OTHER INFORMATION: Primer
300 <220> FEATURE:
301 <221> NAME/KEY: misc_feature
302 <222> LOCATION: (9)..(9)
303 <223> OTHER INFORMATION: n = a or g or c or t/u
306 <400> SEQUENCE: 7
W--> 307 cgdggraana rrtgrtggttc 20
310 <210> SEQ ID NO: 8
311 <211> LENGTH: 40
312 <212> TYPE: DNA
313 <213> ORGANISM: Artificial Sequence
315 <220> FEATURE:
316 <223> OTHER INFORMATION: Primer
318 <400> SEQUENCE: 8
319 gaccacgcgt atcgatgtcg actttttttt ttttttttv 40
322 <210> SEQ ID NO: 9
323 <211> LENGTH: 28
324 <212> TYPE: DNA
325 <213> ORGANISM: Artificial Sequence
327 <220> FEATURE:
328 <223> OTHER INFORMATION: Primer
330 <400> SEQUENCE: 9
331 ggaatcacia tcaacatcat atgttcac 28
334 <210> SEQ ID NO: 10
335 <211> LENGTH: 29
336 <212> TYPE: DNA
337 <213> ORGANISM: Artificial Sequence
339 <220> FEATURE:
340 <223> OTHER INFORMATION: Primer

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Input Set : A:\PTO.VSK.txt

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342 <400> SEQUENCE: 10
343 cttcgtcctt tagaatgttg tttgtgaac 29
346 <210> SEQ ID NO: 11
347 <211> LENGTH: 29
348 <212> TYPE: DNA
349 <213> ORGANISM: Artificial Sequence
351 <220> FEATURE:
352 <223> OTHER INFORMATION: Primer
354 <400> SEQUENCE: 11
355 agtaagcaaa ctaaatttaa aaaacaagc 29
358 <210> SEQ ID NO: 12
359 <211> LENGTH: 29
360 <212> TYPE: DNA
361 <213> ORGANISM: Artificial Sequence
363 <220> FEATURE:
364 <223> OTHER INFORMATION: Primer
366 <400> SEQUENCE: 12
367 agtaagcaaa ctaaatttaa aaaacaagc 29
370 <210> SEQ ID NO: 13
371 <211> LENGTH: 30
372 <212> TYPE: DNA
373 <213> ORGANISM: Artificial Sequence
375 <220> FEATURE:
376 <223> OTHER INFORMATION: Primer
378 <400> SEQUENCE: 13
379 ggtccttcat gaatcttaag gttccacttc 30
382 <210> SEQ ID NO: 14
383 <211> LENGTH: 27
384 <212> TYPE: DNA
385 <213> ORGANISM: Artificial Sequence
387 <220> FEATURE:
388 <223> OTHER INFORMATION: Primer
390 <400> SEQUENCE: 14
391 cttaagtctt atcaactccc ataatgc 27
394 <210> SEQ ID NO: 15
395 <211> LENGTH: 30
396 <212> TYPE: DNA
397 <213> ORGANISM: Artificial Sequence
399 <220> FEATURE:
400 <223> OTHER INFORMATION: Primer
402 <400> SEQUENCE: 15
403 gaagtggaac cttaagattc atgaaggacc 30
406 <210> SEQ ID NO: 16
407 <211> LENGTH: 30
408 <212> TYPE: DNA
409 <213> ORGANISM: Artificial Sequence
411 <220> FEATURE:
412 <223> OTHER INFORMATION: Primer
414 <400> SEQUENCE: 16

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RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 12/04/2002  
PATENT APPLICATION:    US/10/070,666A      TIME: 12:39:31

Input Set : A:\PTO.VSK.txt  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:6; N Pos. 15

Seq#:7; N Pos. 9